REMARKS

Reconsideration and allowance in view of the current amendments and following remarks are respectfully requested.

Claims 1-18 are pending in the application. Claims 1, 5, 9 and 13 are amended herein. Applicant is filing a Request for Reconsideration along with this amendment so that it is appropriate to enter the amendments.

Applicant's representative thanks the examiner and the primary examiner for the courtesies extended during the personal interview of May 5, 2009. The following amendments are to clarify the intended meaning of the pending claims per the agreement reached with the examiners.

In the Official Action dated November 7, 2009, claims 1-18 remain rejected under 35 U.S.C. § 102(e) as being anticipated by Meyer-Almes (US 2003/0096433). Applicant respectfully submits that the claims, as amended for clarification, are patentable over Meyer-Almes and all references of record for at least the following reasons.

Independent claim 1 recites:

"identifying the intervals between the arrival time of a given photon and the arrival time of other photons in said plurality of photons to thereby provide photon pair intervals that are a measure of the time between the arrival of each pair of photons in said plurality of photons;

determining the number of photons that have arrival times that are within said photon pair intervals to provide a measure of intervening photons located within said photon pair intervals ..."

The final paragraph of claim 1 is currently amended to recite:

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"calculating properties of said species that are located in said detection volume based on a relationship between said photon pair intervals and said measure of intervening photons."

Applicant respectfully submits that this amendment clarifies the intended meaning of claim 1 to specify that a relationship between the photon pair intervals and the measure of intervening photons is used to calculate properties of the species that are located in the detection volume. This is fully supported in many places throughout the specification. One way of visualizing the process according to one embodiment of the current invention is that "one axis is the time interval between two photons and the second axis is the number of photons detected between that photon pair." (Specification, paragraph [0023].) "The photon pair intervals are then used in combination with the corresponding counts of intervening photons to analyze properties and interactions of the molecules including brightness, concentration, coincidence and diffusion." (Specification, paragraph [0023].) This is only one example of support in the specification for the amendments. The detailed description further discloses the mathematical framework to perform such analysis for this as well as other embodiments (e.g., multidimensional embodiments which can include multiple channels in some cases). Although the graphical representation is useful to help people visualize at least the two-dimensional case, this is not necessary to perform the recited calculations.

Claim 9, the only remaining independent claim, recites similar features as in claim 1. Applicant has thus amended the final paragraph of claim 9 similar to that of claim 1 to clarify the intended meaning. Applicant further amended dependent claims 5 and 13 to be consistent with their respective base claims.

Applicant respectfully submits that Meyer-Almes fails to disclose such features of claims 1 and 9, as clarified. Meyer-Almes teaches a different type of analysis than those recited in the pending claims.

Meyer-Almes at paragraph [0016] teaches "[o]ptically sensing the output signals can be performed by either measuring in a repetitive mode <u>a number of photon counts per time interval</u>

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of defined length or by measuring in a repetitive mode a length of time intervals between preferably consecutive photon counts. Thereafter, distribution functions of either the number of photon counts or the length of time intervals are build [sic] from which distribution functions of the specific brightness of said carrier particles and/or said fluorescently tagged components are derived." (Emphasis added.) This is teaching a method that requires counting the number of photons per defined time interval or determining the length of time intervals between preferably consecutive photon counts. Paragraph [0026] of Meyer-Almes, also cited by the examiner, basically repeats this description. The processing methods described in Meyer-Almes are based on processing the number of photons per defined time interval or the time intervals between preferably consecutive photon counts. Not only are the time interval evaluations or the photon count per defined time interval different from the current intervals and number of photons within the intervals, Meyer-Almes does not disclose calculating properties based on a relationship between photon pair intervals and the measure of intervening photons within the photon pair intervals. Meyer-Almes merely calculates based on their type of time interval distribution or based on their type of number distribution, not on a two-dimensional or higher dimensional distribution of intervening photon counts and photon pair intervals taken together. Therefore, applicant respectfully submits that claims 1-18 are patentable over Meyer-Almes and thus requests that the rejection under 35 U.S.C. § 102(e) be withdrawn.

Applicant has addressed all of the Examiner's objections and rejections and respectfully submits that the application is in condition for allowance.

Applicant's representative encourages the Examiner to contact him at the telephone number indicated below if it may help expedite the prosecution of the current application.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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